

IMPROVEMENTS IN OR RELATING TO MOUNTING NEEDLE ROLLING BEARINGS

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Abstract of GB1269565

1,269,565. Assembling bearings. NADELLA and A. PITNER. 11 July, 1969 [12 July, 1968], No. 34959/69. Heading B3U. [Also in Division F2] Needle roller bearings are assembled by expelling from a sleeve 6 a ring of needles 7 having at each end an abutment washer 8, 9 and positioning the needles and washers in a bore 3 in a supporting element 1 with an axial clearance between the washers and needles. The needles and washers are expelled from the sleeve by exerting an axial thrust on one washer until the washer occupies its correct position in the bore. The axial clearance is produced by exerting a further axial thrust on the other washer either directly or via the needle rollers. An apparatus for assembling the bearing comprises a mandrel which is composed of an inner 18 and outer element 11, the outer element having a thin cylindrical tube 15 which is adapted to engage the washer 9. The inner element 18 is coaxial with the tube 15 and is provided with a shoulder 22 which engages the ends of the needles. The mandrel elements are mounted within a support 12 by springs 16 and 21. On operation of the apparatus the tube 15 engages the washer 9 and forces the needles and washer from the sleeve into the bore. The member 13 is arranged to prevent further movement of the outer element when the washer 9 is in its correct position. The spring 16 is then compressed until the spring 21 engages the mount 12 and the inner element of the mandrel is forced downwardly, thereby axially displacing the needles and lower washer 8. In another embodiment, (Fig. 5, not shown) the shoulder 22 is omitted and a rubber element 25 is provided to engage with the needles.

